NIOSH eNews

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From the Director's Desk

The American Academy of Dermatology has designated November as National Healthy Skin Month. According to the Bureau of Labor Statistics, occupational skin diseases are the second most common type of occupational disease. In 2001, there were approximately 39,000 reported cases of occupational skin disease; accounting for about 12% of all occupational diseases. It is a pervasive problem that affects every kind of workplace from factories and repair shops to hospitals and farm fields. Continuing advancements in science provide more and better tools for identifying and preventing these disorders. They also can help us better assess and address the role of skin absorption as a pathway for toxic chemicals to enter the body. This issue of eNews focuses on NIOSH research and surveillance efforts to develop and use such tools vigorously and strategically.

- **Field and Laboratory Research Focused on Skin Exposure**
  NIOSH research on skin exposure combines field studies with basic science laboratory testing to develop new methods for measuring exposure and new technologies for preventing those exposures. Research includes identifying ways to prevent auto mechanics' dermal exposure to polycyclic aromatic hydrocarbons; developing better techniques to measure beryllium particles contaminating the skin surface and to determine the extent of skin penetration by these particles; developing prediction models for chemical penetration through the skin; and relating skin sensitization potential to molecular structure using quantitative structure activity relationships (QSARs).

- **Health Hazard Evaluations Focused on Skin Exposure**
  NIOSH conducts Health Hazard Evaluations (HHEs) at the request of employees and employers concerned about health hazards in their workplace. From October 1999 to January 2002, NIOSH conducted 215 skin related HHEs, including paper mill workers with dermatitis from biocides and microbes in paper pulp and dermatitis in workers who handle and package vegetables. As an example of the value of HHEs for identifying and addressing emerging workplace health concerns, NIOSH conducted an HHE at the request of the Senate Sergeant at Arms and the Chief Administrative Officer of the House of Representatives regarding staff concerns about handling irradiated mail following the anthrax attacks of 2001. To view the HHE Reports, go to http://www.cdc.gov/niosh/hhe/.

- **The NORA Allergic and Irritant Dermatitis Team**
  The National Occupational Research Agenda (NORA) Allergic and Irritant Dermatitis (AID) Team is comprised of NIOSH researchers and external partners from academia, labor, industry and other federal agencies. The AID Team mission is to develop a broad-based, active, and lasting group to catalyze research in AID with research concentrated in three priority categories: basic biomedical sciences, clinical epidemiology and surveillance, exposure and risk assessment and prevention. Accomplishments include organizing and sponsoring meetings within the occupational safety and health and dermatology community. Additionally, the team has funded several external projects and one interdivisional intramural research project. To learn more about the AID Team, go to http://www2a.cdc.gov/nora/noratopictemp.asp?rscharea=aid or contact Boris Lushniak at bdt1@cdc.gov.

- **The NORA Dermal Exposure Research Program**
  The NORA Dermal Exposure Research Program promotes the development of improved NIOSH policies and recommendations for identifying and controlling harmful exposures to the skin based on laboratory and field studies. This research program is one of three NORA funded interdisciplinary cross-divisional programs. There are currently eight projects and two supporting core projects being conducted, ranging from biomonitoring to developing engineering controls. To learn more, visit http://www.cdc.gov/niosh/topics/skin/skinresearch.html or contact Sid Soderholm at sgs2@cdc.gov.

- **Skin Exposure Topic Page Updated**
  The NIOSH Safety and Health Topic webpage on Skin Exposures and Effects has recently been updated. Information accessible through this page includes links to NIOSH publications and peer-reviewed research

articles, a database of skin-related topic links, proceedings of an international conference and an updated slideshow presentation for physicians on occupational dermatoses. To access the webpage, go to http://www.cdc.gov/niosh/topics/skin/skinpg.html.

NIOSH Now Accepting Applications for Certifying Escape Respirators for Workplace Preparedness

On November 6, 2003 NIOSH will begin accepting applications under an expedited program to test and certify escape respirators for emergency preparedness in the workplace. Escape respirators that pass the full set of tests will be approved by NIOSH, allowing manufacturers to label the approved products as NIOSH-certified against chemical, biological, radiological, or nuclear (CBRN) agents in workplace escape emergencies. These approvals will be based on positive findings from rigorous tests on sample units voluntarily submitted to NIOSH by manufactures, and from stringent evaluation of manufacturers' quality control practices, technical specifications, and other documentation. To review the NIOSH criteria for certifying escape respirators, visit the NIOSH webpage http://www.cdc.gov/niosh/npptl/esctestlttr.html. This webpage will post the name and model of certified devices as soon as they are approved.

NIOSH Requests Nominations for Chemical Testing

NIOSH and the National Toxicology Program (NTP) are requesting your assistance in identifying chemicals or other agents that may be suitable nominations for toxicological testing by the NTP. Chemicals nominated can be studied for a variety of health-related effects, including reproductive and developmental toxicity, genotoxicity, immunotoxicity, metabolism and disposition and carcinogenicity. If you would like to nominate a chemical, contact Mark Toraason at mtoraason@cdc.gov for more information and the specific criteria for submission.

NIOSH Agricultural Center Develops a New Research Tool

The NIOSH Pacific Northwest Agricultural Safety and Health Center, in cooperation with Microstrain, Inc. has developed Virtual Corset, a new research tool for preventing work-related musculoskeletal disorders. This device allows researchers to continuously collect data on workers' postural exposures to better understand the relationship between cumulative postural exposures, load patterns, and musculoskeletal disorders. Virtual Corset can operate in two modes: two-dimensional measurements of limb/trunk postures or 360 degree measurements of limb rotation. The pager-sized unit can be mounted on the upper arms, sternum, or upper back of the individual. With two megabytes of memory, the device can collect data over a whole day or over multiple days, conditions not previously practical. Originally developed as part of an ongoing agricultural research project, the device should have wide application across the workplace. For more information on the Virtual Corset, contact Pete Johnson at petej@u.washington.edu.

Flight Attendant Study Released

A new NIOSH study, *Measuring and Identifying Large-Scale Metrics for Circadian Rhythm Disruption in Female Flight Attendants*, finds female flight attendants more likely to experience disruptions in circadian rhythm-the body clock-than a comparison group. The study compared melatonin levels, sleep and wake cycles, and work schedules of 45 flight attendants with 26 teachers. Results show that the flight attendants had much greater day-to-day variation in melatonin production than the teachers. The findings will help guide ongoing research to determine if such effects signal long-term risk for adverse reproductive effects. The study appears in the October 2003 issue of the *Scandinavian Journal of Work, Environment, and Health*. Access the abstract online at http://192.58.80.9/e/dept/sjweh/index.htm.

The American Society of Safety Engineers to Collaborate on Prevention Research Initiative

On October 28, NIOSH signed an agreement with the American Society of Safety Engineers (ASSE) to collaborate on strategic research for preventing work-related deaths and injuries. Under the new agreement, which will continue until December 31, 2004, NIOSH and ASSE will partner on projects to reduce work-related injuries by developing and disseminating information on worker safety and health, participating in occupational safety and health conferences and events, advancing the effectiveness of occupational safety and health research, and promoting and facilitating the transfer and workplace implementation of research results on effective occupational injury prevention strategies and technologies. To learn more about ASSE, visit http://www.asse.org.

NIOSH Approves First Upgrade to CBRN Protection for SCBA Devices

On September 11, 2003, NIOSH announced that specified models of previously deployed Scott Health and Safety self-contained breathing apparatus (SCBA) could be upgraded for protection against chemical, biological, radiological, and nuclear (CBRN) agents using procedures and materials certified by NIOSH. The approved procedures and materials apply to upgrades of Scott Health and Safety's Model 4.5 Air-Pak 30-minute, 45-minutes, and 60-minute open-circuit, pressure-demand SCBA. The upgraded SCBA are NIOSH-certified for occupational use by emergency responders and will display this label designating the respirator as having received a CBRN retrofit. All new certifications are posted on http://www.cdc.gov/niosh/npptl/cbrncheck.html as soon as they are issued.

Stop by and Visit us at APHA

Look for the NIOSH exhibit booth #361 at the 131st American Public Health Association Annual Meeting in San Francisco, November 14-20. Stop by for a chat with NIOSH staff and to receive the latest NIOSH publications. For more information on the APHA meeting visit http://www.apha.org/meetings/index.htm.

Web Sightings

Check Out the New NIOSH Homepage

The new NIOSH homepage has been redesigned to provide information in a more easily searchable format and to be more compatible with CDC's new homepage. Go to http://www.cdc.gov/niosh/.

Fighting Wildfires Spotlight

A new spotlight on the NIOSH homepage focuses on fighting wildfires and provides key resources, important general information about working in hot environments, related topic pages, and a direct link to the Health Hazard Evaluation database. To access the spotlight online visit http://www.cdc.gov/niosh/topics/firefighting.

Small Business Topic Page

A new NIOSH topic page provides occupational safety and health resources to small businesses. The NIOSH resource guide for small businesses and NIOSH publications are accessible through the webpage. An added feature is the link to related NIOSH Safety and Health topic pages that are of particular interest to small businesses. The website is http://www.cdc.gov/niosh/topics/smbus/.

NIOSH Safety and Health Topic Webpages Update

NIOSH has recently updated and redesigned several NIOSH Safety and Health Topic webpages with new publications and links for NIOSHTIC-2 database searches, enhancing the pages' value as time-saving portals to further data. The following is a list of recently updated topic pages.

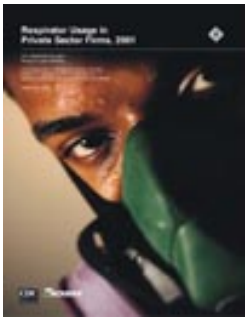
Dentistry http://www.cdc.gov/niosh/topics/dentistry
Dry cleaning http://www.cdc.gov/niosh/topics/dryclean
Pneumoconiosis http://www.cdc.gov/niosh/topics/pneumoconioses/
Reproductive Health http://www.cdc.gov/niosh/topics/repro/
Tuberculosis http://www.cdc.gov/niosh/topics/tb

Publications

Reducing Roofers' Exposure to Asphalt Fumes

A new NIOSH document provides guidance for roofers and contractors who work with hot asphalt on roofs. *Reducing Roofers' Exposure to Asphalt Fumes* (Publication Number 2003-107) identifies practical steps for employers and workers to take in preparation for applying hot asphalt and safe work practices to follow during and after application. To access the document online, go to http://www.cdc.gov/niosh/docs/2003-107.

Respirator Usage in Private Sector Firms, 2001



A joint publication by the Bureau of Labor Statistics (BLS) and NIOSH provides results from the 2001 Survey of Respirator Use and Practices by employers. Employers from private industry in manufacturing, construction, mining, agriculture, health care, and services responded to the survey. Findings show that respirators were used by 3.3 million employees in 281,800 business establishments in the 12 months prior to the survey. Dust masks were the most commonly used respirator and 59 percent of establishments trained employees on respirator use. To view the document, go to http://www.cdc.gov/niosh/docs/respsurv/.

Upcoming Events

First International Scientific Conference on Occupational and Environmental Health to be Held in Vietnam

The first International Scientific Conference on Occupational and Environmental Health will take place in Hanoi, Vietnam on November 12-14, 2003. NIOSH is cosponsoring the conference along with organizations and agencies in United States and Vietnam. The conference will provide an opportunity for delegates to exchange scientific information on occupational and environmental health in Southeast Asia. For more information on the conference, contact the Vietnam Association of Occupational Health at nioeh@hn.vnn.vn or the University of Washington's Northwest Center for Occupational Health and Safety at ce@u.washington.edu.

National Chronic Obstructive Pulmonary Disease (COPD) Conference

The first National Chronic Obstructive Pulmonary Disease (COPD) Conference will be held in November 13-15, 2003 in Arlington, Virginia. The goal of the conference is to provide scientific and societal background concerning COPD to further education, awareness, and improved care in the United States. The conference will provide an opportunity to meet and to actively participate in state-of-the-art workshops, lectures, and meetings. For more information, visit the conference website http://www.uscopd.com/index_confer.html.